

IN THE CLAIMS:

Please AMEND claims 1, 2, 4-8, 12, 14 and 15, as follows. A marked-up copy of the amended claims, showing the changes made thereto, is attached in Appendix A. For the Examiner's convenience, all claims currently pending in this application have been reproduced below:

1. (Amended) An exposure apparatus having an illuminating optics unit for irradiating a reticle, on which a predetermined pattern has been formed, with exposing light emitted from an exposing light source, a reticle stage on which the reticle is placed, projection optics unit for projecting the predetermined pattern of the reticle onto a substrate, and a substrate stage on which the substrate is placed, said apparatus comprising:

at least one chamber for internally accommodating the illuminating optics unit, the reticle stage, the projection optics unit and the substrate stage;

first pressure control means for making pressure inside the projection optics unit higher than pressure outside the chamber; and

first correction means for correcting optical characteristics of the projection optics unit in accordance with a value of pressure inside the projection optics unit.

2. (Amended) The apparatus according to claim 1, wherein the reticle is irradiated with exposing light, which has been emitted by the exposing light source, via the illuminating optics unit, the predetermined pattern that has been formed on the reticle is projected onto the substrate via the projection optics unit to expose the substrate to the pattern, and the exposing light has an optical path the entirety of which is sealed within said at least one chamber, said apparatus further comprising:

second pressure control means for making pressure inside said at least one chamber higher than pressure outside said at least one chamber; and

second correction means for correcting optical characteristics of the projection optics unit in accordance with a value of pressure inside said at least one chamber.

3. The apparatus according to claim 1, wherein the interior of said chamber is filled with inert gas.

4. (Amended) The apparatus according to claim 3, wherein the inert gas is selected from the group consisting of nitrogen gas, helium gas and a mixed gas of nitrogen gas and helium gas.

5. (Amended) The apparatus according to claim 1, wherein control is performed in such a manner that pressure inside the projection optics unit is made higher, by a fixed amount, than pressure outside the projection optics unit.

6. (Amended) The apparatus according to claim 1, wherein pressure inside said chamber is made constant.

7. (Amended) The apparatus according to claim 1, further comprising a first pressure sensor for sensing the value of pressure inside the projection optics unit and a second pressure sensor for sensing value of pressure outside the projection optics unit.

8. (Amended) The apparatus according to claim 1, wherein said first correction means estimates an amount of change in optical characteristics of said projection optics unit based upon an index of refraction, which varies in accordance with the value of pressure inside said projection optics unit, and corrects the optical characteristics of said projection optics unit based upon the estimated amount of change in optical characteristics of said projection optics unit.

9. The apparatus according to claim 1, further comprising a substrate load-lock chamber in the vicinity of said substrate stage and a reticle load-lock chamber in the vicinity of said reticle stage.

10. The apparatus according to claim 1, wherein said illuminating optics unit, said reticle stage, said projection optics unit and said substrate stage are accommodated in respective ones of separate chambers.

11. The apparatus according to claim 1, wherein said illuminating optics unit, said reticle stage, said projection optics unit and said substrate stage are accommodated in at least two separate chambers.

12. (Amended) A method of manufacturing a semiconductor device, comprising the steps of:

placing a group of manufacturing equipment for performing various processes, inclusive of an exposure apparatus having an illuminating optics unit for irradiating a reticle, on which a predetermined pattern has been formed, with exposing light emitted from an exposing light source, a reticle stage on which the reticle is placed, a projection optics unit for projecting the predetermined pattern of the reticle onto a substrate, and a substrate stage on which the substrate is placed, the apparatus comprising:

(i) at least one chamber for internally accommodating the illuminating optics unit, the reticle stage, the projection optics unit and the substrate stage;

(ii) first pressure control means for making pressure inside the projection optics unit higher than the pressure outside the chamber; and

(iii) first correction means for correcting optical characteristics of the projection optics unit in accordance with a value of pressure inside the projection optics unit, in a plant for manufacturing semiconductor devices; and

manufacturing a semiconductor device by performing a plurality of processes using this group of manufacturing equipment.

13. The method according to claim 12, further comprising:
interconnecting the manufacturing equipment by a local-area network; and
communicating, by data communication, information relating to at least one piece
of manufacturing equipment in said group thereof between the local-area network and an external
network outside said plant.

14. (Amended) The method according to claim 13, further comprising obtaining
maintenance information for the manufacturing equipment by accessing, by data communication
via the external network, a database provided by a vendor of the manufacturing equipment or by
a user, or production management is performed by data communication with a plant other than
the first-mentioned plant via the external network.

15. (Amended) A plant for manufacturing a semiconductor device, said plant
comprising:

a group of manufacturing equipment for performing various processes, inclusive
of an exposure apparatus having an illuminating optics unit for irradiating a reticle, on which a
predetermined pattern has been formed, with exposing light emitted from an exposing light
source, a reticle stage on which the reticle is placed, a projection optics unit for projecting the
predetermined pattern of the reticle onto a substrate, and a substrate stage on which the substrate
is placed, said apparatus comprising:

(i) at least one chamber for internally accommodating the illuminating optics unit, the reticle stage, the projection optics unit and the substrate stage;

(ii) first pressure control means for making pressure inside the projection optics unit higher than pressure outside the chamber; and

(iii) first correction means for correcting optical characteristics of the projection optics unit in accordance with a value of pressure inside the projection optics unit;

a local-area network for interconnecting the group of manufacturing equipment;

and

a gateway for making it possible to access, from said local-area network, an external network outside the plant,

whereby information relating to at least one of the pieces of manufacturing equipment can be communicated by data communication.

REMARKS

Applicants request favorable reconsideration and allowance of the subject application in view of the preceding amendments and the following remarks.

In reviewing the subject file, Applicants note errors in the listing of the Japanese patent documents on the Notice of References Cited (PTO-892) form. Specifically, the first Japanese patent document should be listed as JP-10-145655 and the second document should be listed as